



DERMATOLOGICAL SURGERY

## **EFFECT OF SURGICAL TREATMENT COMBINED WITH MECHANICAL FORCE RELATED DEVICES ON HYPERTROPHIC SCAR AND KELOID**

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**Introduction:** Mechanical force plays an important role on the process of wound healing and scar formation. Hypertrophic scars(HS) and keloids can be called pathological scars, characterized by bizarre cosmetics and painful itching. Many mechanical force related devices are applied on the treatment of HS and keloid.

**Objective:** This study is to evaluate outcomes of surgical treatment combined with mechanical force related devices in intractable HS and keloid.

**Materials and methods:** From July 2013 to September 2017, ten patients with 14 HS and keloid lesions performed core or total surgical excision combined with mechanical force related devices were followed up. Mechanical force related devices included embraced tension reduction device, skin tape and ear clip, which were recommended to use for 3-6 month after surgical treatment. Scar improvement was evaluated by patients and observer with scar assessment scale (POSAS).

**Results:** Of these 10 patients, 3 patients were male and 7 female, with the age ranging from 22 to 45 years (mean age = 34 years). Location of HS and keloid contained 4 earlobe, 2 auricle, 2 chest, 2 shoulder, 2 perineum and 2 arm. The primary size of the lesion before surgery ranged from 2.0cm×3.0cm to 5.0cm×12.0cm. The clinical improvement of the scars with POSAS scoring by the observer was 17.8±4.3 and by the patients was 19.9±8.4. The patients were followed up from 6 months to 3 years post-surgery with little recurrence (14%) in two keloid lesions and no recurrence (86%) in 12 lesions. All patient satisfied the outcomes without any complications.

**Conclusion:** The mechanical force related devices were recommended to use for treatment of HS and keloid after surgical excision, which were beneficial to reduce the recurrence of scar and maintain the long-term effect.

